

UNUSUAL ABUNDANCE OF *CHIASMIA CLATHRATA* (L.)  
(LEP.: GEOMETRIDAE) IN ESSEX IN 1997

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ON 25 AUGUST I received a phone call via Essex Wildlife Trust from a resident of Little Clacton, Essex, whose house was being invaded by a type of butterfly or moth, attracted by lights and coming in to the kitchen through open windows. It became apparent from her description that the species in question was the geometrid moth *Chiasmia clathrata* (L.) the Latticed Heath.

Within a few days recorders operating along the coast of north-east Essex began to contact me, reporting high numbers of adults in their garden light traps and some suspecting these to be the product of a substantial migration. This idea was supported by rumours of large numbers of Small Tortoiseshell butterflies coming in off the sea at Norfolk at the same time (see Tunmore, 1998a), though neither Skinner (1984) or Skou (1986) regards *C. clathrata* as being a migratory species.

Fortunately this part of Essex has a number of conscientious lepidopterists who habitually keep records of their nightly catches and this includes details of common species. These traps are situated at Dovercourt, Kirby-le-Soken, Frinton-on-Sea (the only actinic lamp), and St Osyth. To help create an overall picture, their records were added to those received from other traps nearby which included two at Jaywick and two across the border in Suffolk from the Landguard Bird Observatory and Felixstowe as well as daytime sightings from as far away as Cold Norton on the Dengie peninsula, spanning a distance along the coast of approximately 55 kilometres. This appears to be the key area, though there are few recorders living to the north and south of here. Those contacted outside this limit did not notice anything unusual during the flight period.

There are thought to be usually two generations of *C. clathrata* each year in Essex. The first is typically represented by very few adults, widely spaced out during the flight period from April to June (although so sparse are the records that the exact timing is unclear). This was reflected in 1997: just three adults were reported at the Dovercourt and St Osyth traps from April and May, and none at all in June.

First generation adults are known to oviposit on lucerne, *Medicago sativa sativa* L., a crop which is grown commercially on the Dengie peninsula, and sporadically over the rest of the area as a supplement in crop rotation (Tarpey and Heath, 1990). The resulting second generation adults are usually common and are recorded from July until late September. In July 1997 the traps at Landguard, Dovercourt, Kirby, Frinton and St Osyth recorded 7, 18, 9, 0 and 137 respectively with two faint peaks, one in the middle and one near the end of the month; and for August up to the 21st they noted 2, 9, 6, 0 and 9. From the 21st, however, numbers rapidly rose as Fig. 1 shows.

There are two obvious peaks, centred around 23 and 31 August. There were many additional trap reports in August from other sites in the area, observations done on a

more casual basis. These include Colne Point Nature Reserve, which reported 700 on 22nd, 400 at Stour Wood Nature Reserve on 23rd, a Colchester trap further inland yielded 200 on the same night (compared with 9 on 26 July), and two traps at Jaywick reported catches of 2,500 and 800 adults on the night of 25 August.

There were also four important daytime observations. On 21 August, Graham Smith estimated 8,000-10,000 adults on a single lucerne field near Burnham-on-Crouch, with thousands nearby on other fields. Don Down had a similar experience on 23 August on lucerne fields near Latchingdon and South Woodham Ferrers. At Cold Norton he swept lucerne for larvae, which were very numerous and in different stages of development, and these were subsequently reared successfully, none suffering from parasitism or disease.

Sifting through reports received from 27 sites elsewhere in Essex it is clear that those living away from the north-east coast and the Dengie peninsula saw more usual numbers or none at all, thus defining the area affected, and were largely unaware of events further east. The eventual fate of the swarm is unclear and adults may simply have stayed put or been blown out to sea. There are two reports from outside the area, however, which may hint at some movement. The first is from Bury St Edmunds (30 kilometres to the north-west) where an observer caught single adults on 26 and 31 August, the first he has seen in eight years of trapping (M. Tunmore, *pers. comm.*). The second, from Peter Davey, records an unusual eleven adults between 26 August and 2 September from various localities in Dorset. No unusual numbers have been reported from Kent (E.G. Philp, *pers. comm.*).

### Weather conditions

Chris Gibson kept (unpublished) weather notes for Dovercourt and relates that the first three weeks of August were hot and dry. Indeed, the last rain had been in mid-July and the last significant rain was at the end of June. It was humid from 21 to 24 August, with south/south-westerly winds, and rather overcast. Chris's minimum night temperatures in this period ranged from 19° to 21°C (21° was the highest night minimum he has recorded in four years at Dovercourt). There was significant rain on both 21 and 24 August. 25 to 31 August was more unsettled and cooler with winds between south-east and south-west. This period was generally windier, and minimum temperatures lower, typically 14° to 16°C. There was rain on the 29th. It was cooler still from 1 to 5 September, with nightly minimums down to 10°C and rather windy.

In Dorset, Peter Davey reports wind direction as being southerly on 26 and 27 August, westerly on 30 August and south-westerly on 1 and 2 September.

### Conclusion

If truly indigenous, as the report of larvae suggests, this *C. clathrata* swarm would have originated from the Dengie peninsula, with its vast amounts of lucerne, and then probably moved northwards. Numbers of adults recorded at the two most southern traps at St Osyth and Jaywick would seem to hint at this, and even the Bury St Edmunds observation may tie in.

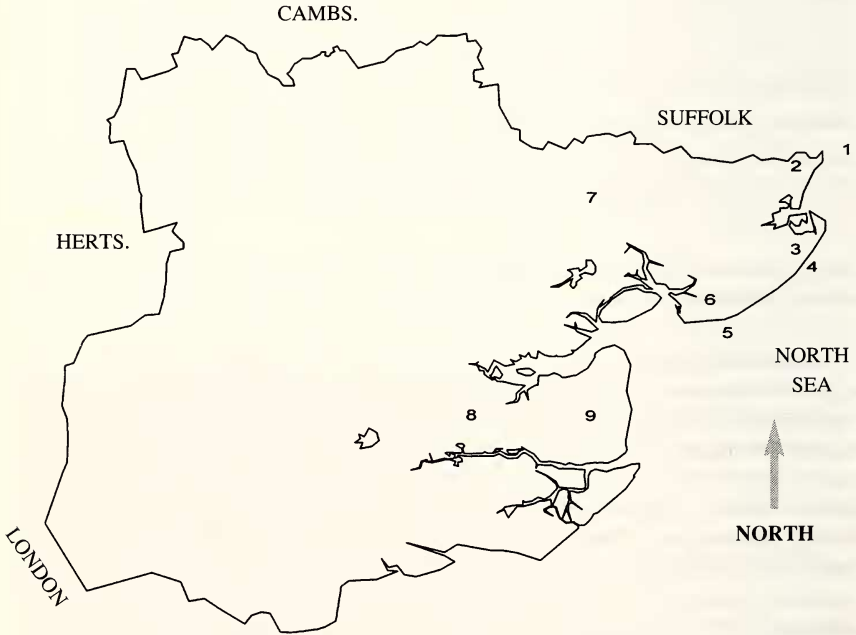
	Landguard	Dovercourt	Kirby	Frinton	St. Osyth
21 Aug	1	5	41	52	785
22	17	387	134	28	<b>1475</b>
<b>23</b>	173	<b>1384</b>	<b>154</b>	55	1400
24	<b>224</b>	14	–	<b>57</b>	1400
25	204	28	14	42	153
26	68	26	1	2	113
27	16	–	1	1	90
28	7	10	–	6	111
29	0	<b>463</b>	32	14	325
30	30	112	5	3	–
31	19	275	<b>283</b>	<b>42</b>	<b>1720</b>
<b>1 Sept.</b>	<b>36</b>	78	13	19	1500
<b>2</b>	15	172	11	5	475
3	11	–	–	1	–
4	5	6	4	–	50
5	4	1	2	–	7

**Table 1.** Number of adults caught each night from five locations. Bold text indicates peaks. No counts are represented by a dash.

There are signs, based on records received for other species in Essex, of some migratory movement into the country between the 8 and 11 August but nothing significant towards the latter part of the month. At first there appears to be little evidence of migration and good reason to suspect that all late summer adults were locally bred. However, there are no reports of adults being particularly common early in the season that would help to explain the vast numbers encountered during late August, especially if only two generations were involved. Allowing four to five weeks between generations, it is perhaps possible that three broods could have been produced, making use of the good summer and plentiful food supplies and promoting a rapid population built up. This is probably unrealistic but it would help to explain the mid-July numbers.

The possibility that the swarm was partially or entirely composed of primary migrants, from the Low Countries for example, cannot be dismissed, especially in light of the Dorset specimens which Peter Davey believes originated from outside of Britain and may have arrived with a swarm of Small Tortoiseshell noted at Durlston on 26 August (and there remains the huge Small Tortoiseshell influx at Norfolk during late August and early September). No significant numbers of this butterfly were reported from Essex, however.

Talking to local entomologists has revealed the possibility of a cycle for *C. clathrata*, which may span two or three years, although this is based on rather flimsy evidence at present and further field work will certainly be needed to confirm this. Outbreaks that have some substance include 1994, when Don Down recalled an abundance of larvae in lucerne fields on the Dengie peninsula, and there are records from Reg Arthur at St Osyth of unusual numbers of adults during August and September 1992, although nowhere near as high as in 1997 (the best being 123 on 25th August 1992). Interestingly, Dorset recorded ten adults in 1992, mostly in September, compared to a more usual two per year (P. Davey, *pers. comm.*). Such a cycle, if it exists, may simply be linked to the quantity of lucerne being grown here or abroad, or alternatively the late development of the host plant because of adverse weather conditions such as drought delaying the cutting operation and giving larvae more time to develop.



**Fig 1: Map of Essex showing principal locations mentioned in the text:**

- |                               |                     |
|-------------------------------|---------------------|
| 1. Landguard Bird Observatory | 6. St Osyth         |
| 2. Dovercourt                 | 7. Colchester       |
| 3. Kirby-le-Soken             | 8. Cold Norton      |
| 4. Frinton-on-Sea             | 9. Dengie peninsula |
| 5. Jaywick                    |                     |

### Acknowledgements

I would like to thank the following for supplying data. The main traps used in Fig. 1 are in parentheses. R.W. Arthur (St Osyth trap), P. Bergdahl (Kirby trap), B. Churcher, J. Clifton, P. Davey, D.G. Down, A.M. Emmet, J.B. Fisher, Dr. C. Gibson (Dovercourt trap), J.G. Green, M.J. Green, M.P. Jackson, B. Lock (Frinton trap), R. Marsh, J. Nichols, N. Odin (Landguard Bird Observatory), H. Owen, B. Pateman, M. Peck, E.G. Philp, A. Pritchard, I.C. Rose, G. Slater, G. Smith, P. Smith, M. Tarrant, M. Tunmore, D. Warner, A. Watchman, J. Wilde, S. D. Wood, and J. Young. The map was generated by using DMap by Dr A. Morton.

### References

- Skinner, B., 1984. *Colour identification guide to the moths of the British Isles*. Harmondsworth.  
 Skou, P., 1986. *The geometroid moths of North Europe*. Copenhagen.  
 Tarpey, T. and Heath, J.J., 1990. *Wild Flowers of north east Essex*. Colchester.  
 Tunmore, M., 1998a. The 1997 small tortoiseshell *Aglais urticae* (L.) influx. *Atropos* 4: 6.

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### Stolen Books

I have been sent information on stolen books as follows from the Booksellers Association. The books were stolen from a private address in Harpenden, Hertfordshire on the night of 5 November 1998 while the owners were away (some antiques were also selectively stolen).

Albin, Ebenezer – *A natural history of spiders & other curious insects*. 4to Old leather, hand-coloured plates. Fine copy 1736.

Stoll, Chester – Title uncertain. (but almost certainly *Representation des Spectres, des Mantres, des Sauterelles, des Grillons, des Criquets et des Blattes*) 2 vols in one in French & Dutch – on Bugs. Hand coloured plates 4to contemp half calf. Fine copy 1780 1788.

Readers who are offered these books or who may otherwise come across them are asked to contact PC Munday of Harpenden Police on 01382 768769.– BRIAN GARDINER, 2 Highfield Avenue, Cambridge CB4 2AL.

### Dead Alcon blue *Maculinea rebeli* (Hirschke, 1904) (Lep.: Lycaenidae) eggs in the Benasque Valley, Spanish Central Pyrenees – the truth!

During a butterflying expedition to Spain in April 1998 in the company of Dr Bernard Watts and Professor Ted Benton, I was fortunate to be introduced to Dr Miguel Munguira of the Department of Biology at the Universidad Autonoma de Madrid. Miguel has worked on *Maculinea* van Eecke 1915 butterflies in Spain and was able to answer some of my questions about *M. alcon* ([D.& S.]) and *M. rebeli*, which he considers to be two “good” species and not two subspecies of *alcon*.